



Canadian Network for Public Health Intelligence

Reducing human illness associated with infectious disease by supporting intelligence exchange, surveillance activities and outbreak investigations



Contributing to Global Public Health Intelligence Management

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Public Health Agency of Canada

Overview



- CNPHI was developed to meet specific Fed/Prov/Terr public health stakeholder needs
- High-level view of CNPHI
 - Program *Architecture*
 - IT *Architecture*
- CNPHI Direction / Next steps
- CNPHI and PHIN

What Fed/Prov/Terr Public Health Stakeholders are Telling Us



Needs:

- Secure, integrated applications / framework to facilitate Pan-Canadian and jurisdiction-specific communication, surveillance, and event/program management.
- System / framework to meet both Pan-Canadian and jurisdiction-specific needs.
- Leverage existing legacy systems.
- Inter-jurisdiction case management.
- Comprehensive integrated system with best of breed alerting and surveillance modules to address overall Public Health program needs.
- IP/Ownership flexibility to accommodate on-going maintenance, modifications and enhancements; low cost.
- No products on market met unique inter-jurisdictional responsibilities / needs.

What Fed/Prov/Terr Public Health Stakeholders are Telling Us



Need for.... *“an intelligence dissemination or health alert network system.... developed gradually Portal-type capabilities allowing controlled access to a wide range of informationprovide a fully-featured secure system...”*

Need for.... *“adoption of highly flexible and interoperable data platforms, that allow sharing of public health information ... into an outbreak management database platform.”*

Dr. David Naylor in the October 2003 Learning from SARS report

Bioterrorism preparedness

Public Health

Planning → Surveillance/Alerting → Response

Two sides of the same coin

What Fed/Prov/Terr Public Health Stakeholders are Telling Us



Basic Public Health Requirements:

- **Security - privacy - confidentiality**
- **Accessibility:** ease of access i.e. web-based
- **Role-based and jurisdictional flexibility:** differing roles have different functional abilities within each application based on public health roles and/or need
- **Configurability and ease of enhancements:** Program architecture designed to respect unique jurisdictional needs e.g. data sharing
- **Simple/Intuitive:** Public Health professionals are busy people
- **Interoperability:** Different systems need to be able to talk to each other.
- **Anticipate international interoperability**
- **Standards:** Intelligence exchange and data standards



What Fed/Prov/Terr Public Health Stakeholders are Telling Us



- Buy-in is a challenge:
 - Public Health professionals **do not** accept typical IT driven solutions
- Many program business rules are **organic / not exact**
- IT solutions must be extremely **flexible, adaptable, and respectful** of public health needs
- Ultimately, IT solutions **MUST benefit** public health and the lives of public health professionals

Unique Approach

Program Driven – I.T. Enabled

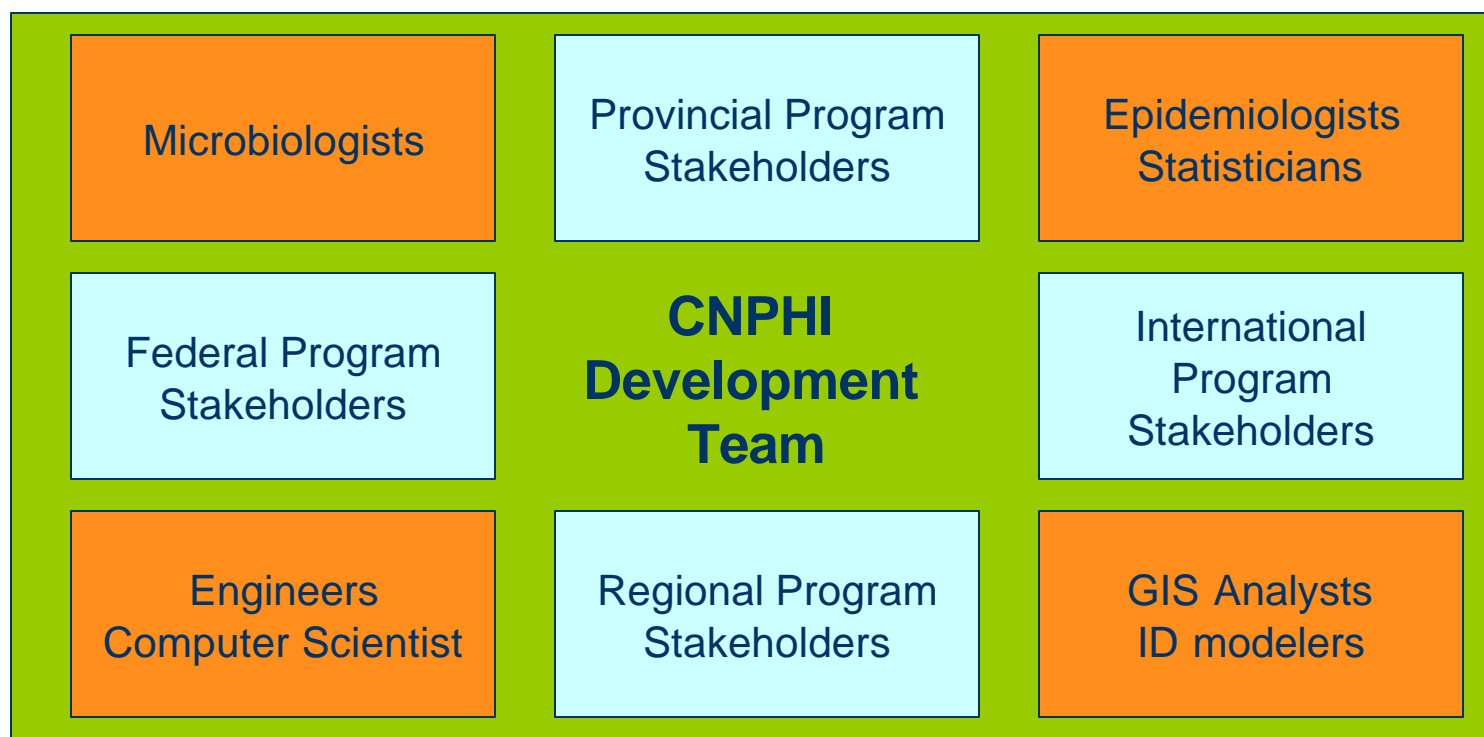


CNPHI was Developed Based on these Key Principles:

1. Program driven
2. Respect jurisdictional responsibilities / accountabilities
3. Coordinated national alerting / notification
4. Support coordinated national responses
5. Automated communications
6. Address critical infostructure gaps
7. IT interoperability (and standards)
8. Full use of existing data (and standards)
9. Full use of existing expertise
10. Information / Intelligence rich

Unique Approach

Program Driven – I.T. Enabled



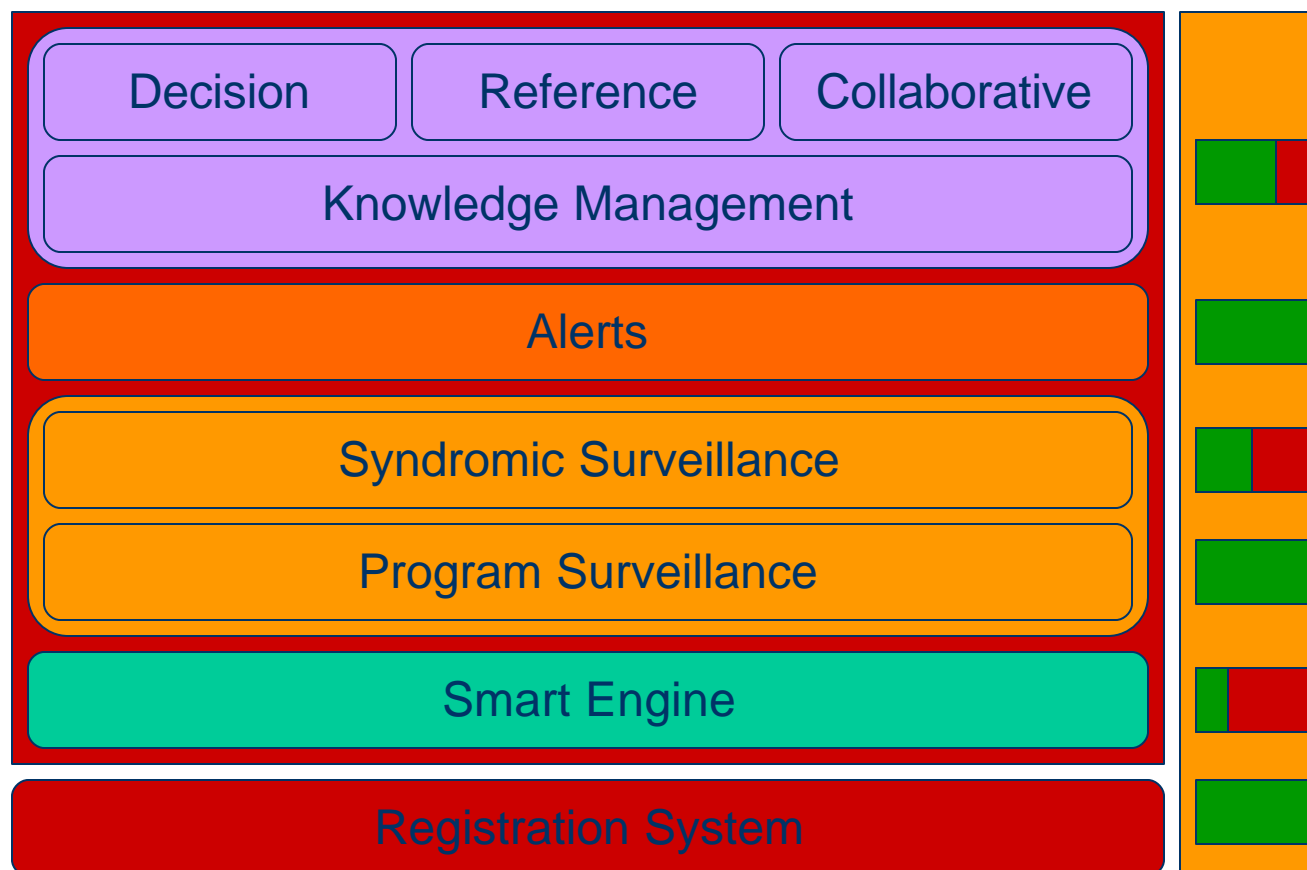
Orange:

Core CNPHI team

Light Blue:

Stakeholders

CNPHI Modules



Scheduled completion: November 2005

CNPHI At a Glance



Event Management

- Command and control
- Real-time data collection and integration
- Intelligence organization, display, and decision making tools
- Integration of organic and external expertise
- Connectivity of external command centres and capabilities
- Data recovery and long-term analysis

Program Management

- Program/Business centres
- Communication and coordination
- Program driven, configurable and flexible

Alerting

- Targeted alerting
- Role based
- Respect jurisdictional accountabilities
- Program driven, configurable & flexible

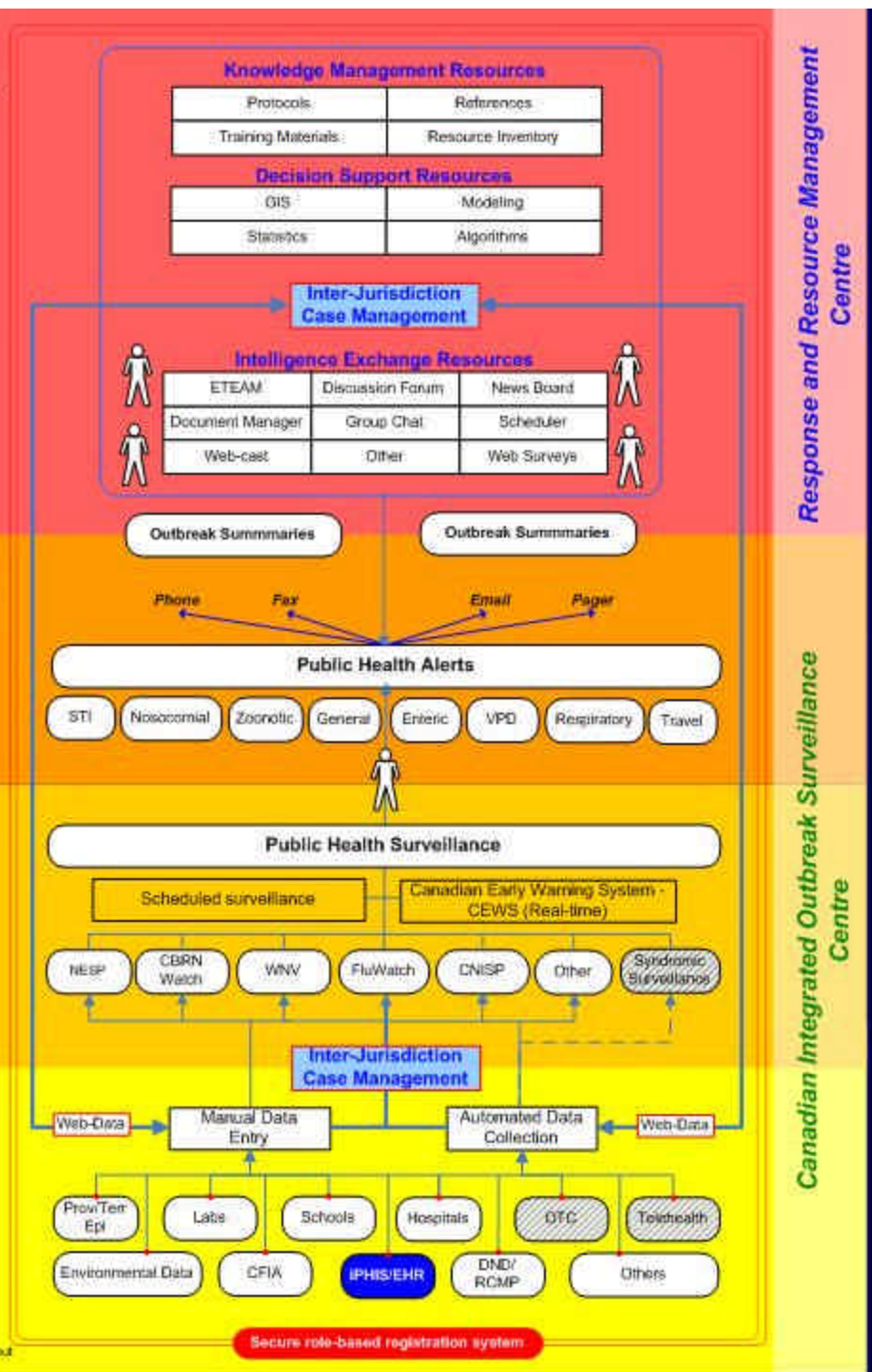
Surveillance/Program 'Watches'

- Intelligence presentation using maps, charts, etc.
- Supported by algorithmic and other decision support tools
- Program driven, configurable and flexible

Data Collection/Exchange

- Manual and automated targeted data collection
- Respects privacy issues
- Program driven, configurable and flexible

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Response and Resource Management Centre



Event/Program Management & Collaboration:

Fed/Prov/Terr programs need secure communication tools to facilitate structured and organized communications, collaboration, command and control.

- *Intra and inter-jurisdictional collaboration platforms*
- *Secure ability to share documents; schedule meetings; share data (including both lab and epi case data); communicate updates; coordinate response.*

Knowledge Management:

Fed/Prov/Terr public health authorities require the capacity to manage reference materials, on-line texts, protocols, emergency contacts, resource inventory, training materials.

Inter-Jurisdictional Case Management:

Fed/Prov/Terr public health authorities require the ability to share case information when needed while respecting Prov/Terr privacy legislation.



Response and Resource Management Centre



Asian Tsunami

- Setup within 24 hours
- 16 people registered as writers and administrators
- PHAC working group created

Public Health Agency of Canada / Agence de santé publique du Canada

Canada

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CNPHI Home	Profile Manager	Surveillance Centre	Response Centre	

CPHLN RLSPC Canadian Public Health Laboratory Network

CPHLN - RLSPC NEWS BOARD

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Apr 11, 2005
Audience: --All--
URGENT RE: H2N2

Dr. David Butler-Jones, Chief Public Health Officer has requested a teleconference call for today Monday, April 11 from 3:00 p.m. - 4:00 p.m. EDT to brief you on the H2N2 issues. If you are unable to join, please have an alternate participate.

Dial-in Information:

Date: Monday, April 11, 2005
 Time: 3:00 p.m. - 4:00 p.m. EDT
 Dial-in number: 1-866-646-2080
 Pass code: 9419394#

Collaboration Centres

Newsboard

Postings

Archive Manager

Group Notification

Discussion Board

Documents Manager

Meeting Scheduler

Resources

Inventories

Winnipeg EOC

- CNPHI used to power EOC

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ASIAN TSUNAMI

ASIAN TSUNAMI NEWS BOARD

Jan 12, 2005
Audience: PHAC
 Please see link for remarks made by Dr. Butler-Jones, Dr. Gully and Dr. Ellis at news conference on January 11, 2005.
[News conference comments](#)
 ~ Marsha Taylor ~

Jan 04, 2005
Audience: PHAC
 Hello everyone....should probably be doing this on a discussion forum...but... One easy way to speed things up is to disable images on your browser. Here is the instructions for Explorer. BTW...my connection in Fergus is not much

POST NEWS

Arial 1 (8 pt)

CPHLN

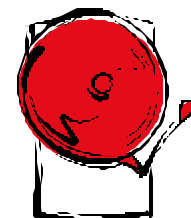
- CNPHI used on day-to-day basis for both program and event management

Canadian Integrated Outbreak Surveillance Centre (CIOSC)

Alerting/Notification:

Fed/Prov/Terr programs are in need of Pan-Canadian alerting/notification system to communicate important public health messages both within and between jurisdictions.

- Targeted alerting (public health, front-line, etc)
- Role based
- Respects jurisdictional responsibilities
- Configurable & flexible
- Secure web-technology



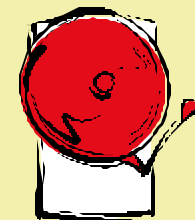
Surveillance - Analysis - Data Exchange:

Fed/Prov/Terr programs are in need of an integrated platform to facilitate and consolidate Pan-Canadian program specific surveillance activities.

- Program driven, configurable and flexible
- Respect jurisdictional data ownership
- Integrated platform to facilitate data collection and exchange
- Intelligence presentation using maps and charts
- Roll-based access and functionality
- Investigation of syndromic surveillance



Public Health Alerting/Notification





Canadian Integrated Outbreak Surveillance Centre

Public Health Alerts

» Posted

» Enteric

» Respiratory

» Archived

» Create New Posting

» My Submissions

» My Drafts

» Pending Approval

» Not for Posting

» Supporting Docs

» Log Out

Details of Posted Enteric Alert

Subject*: Suspected Food-Borne Illness +++++

Manitoba


Winnipeg Regional Health Authority

Viewing Audience: FPT Reviewers, Man

Emailed Audience: FPT Reviewers, Man

Alert Status: Posted

REPORTING SOURCE

Posting Number	EA-000540
Reporting Date*:	Apr 28, 2005
Person Reporting*:	Deborah Nowicki
Contact Person*:	Nancy Gates
Email*:	ngates@vrha.mb.ca
Phone Number*:	204-940-2326
Fax Number:	204-940-2690

EVENT INFORMATION

Suspect Organism*:	Norovirus/Norovirus like
Suspect Source*:	Unknown
Location of Event*:	International
Priority*:	Yellow (Moderate)
Setting*:	-- Unknown --
Date Investigation Started*:	Apr 22, 2005

EVENT DESCRIPTION

Details*:

This posting is an update to EA-00197 (see attached).

Laboratory results reported on April 25, 2005 indicate that the cause of the outbreak is Norovirus.

The source of exposure has not yet been determined. Analysis of food-history data is underway. An update will be posted upon completion.

Public Health Surveillance

CEWS
Canada

MAIN

EPIPLOT

MAPPLOT

OPTIONS

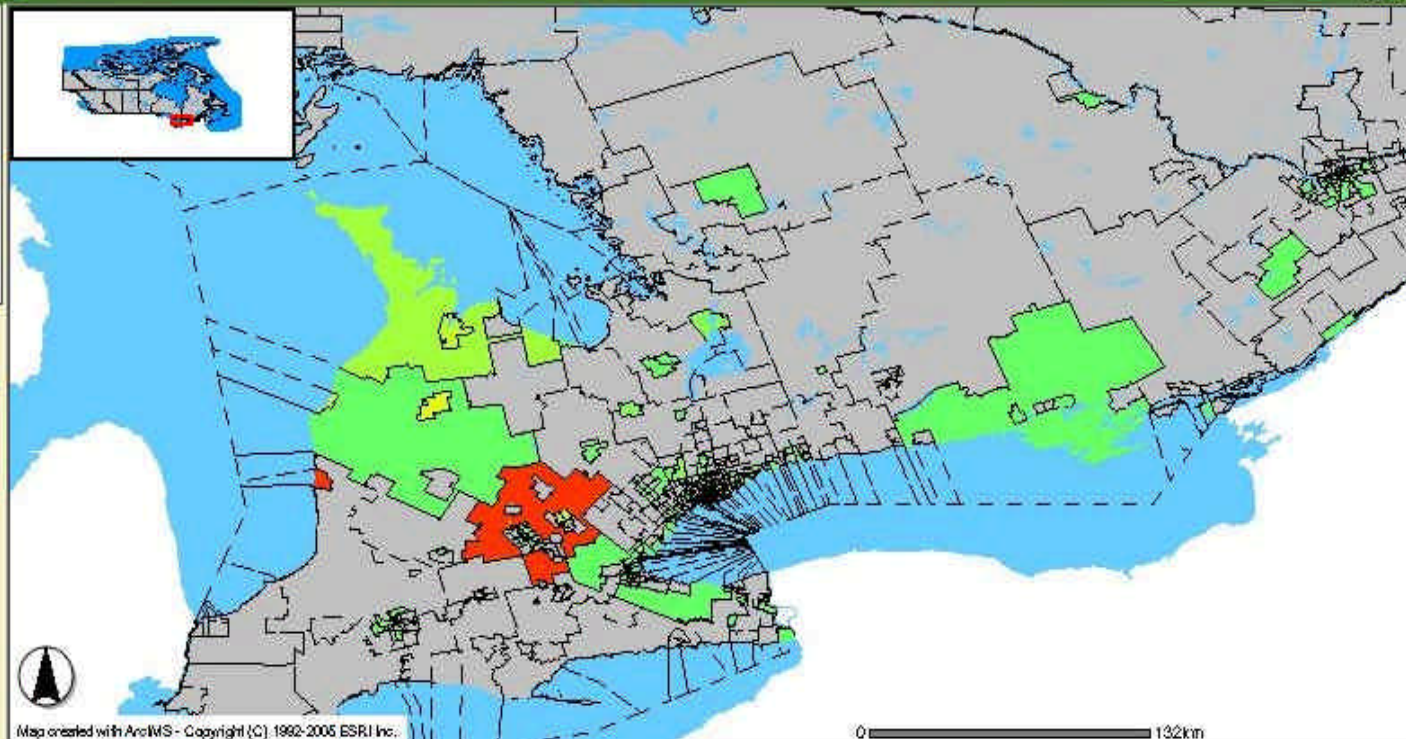
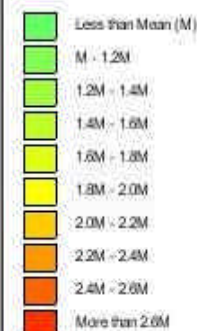
HELP

CONTACT

LOGOUT

1-866-48-CNPHI

Based on RODS v3

Legend
OTC Counts vs. Avg

Data Report

Postal Code	Normalized OTC Count	OTC Count	% of Average
N0H	1	116	129

Data Source:

Over The Counter

Jurisdiction: ON

Syndrome: All

Category: Antidiarrheal

Period: Custom Dates

Start: May 1 2001

End: May 31 2001

Gender: All

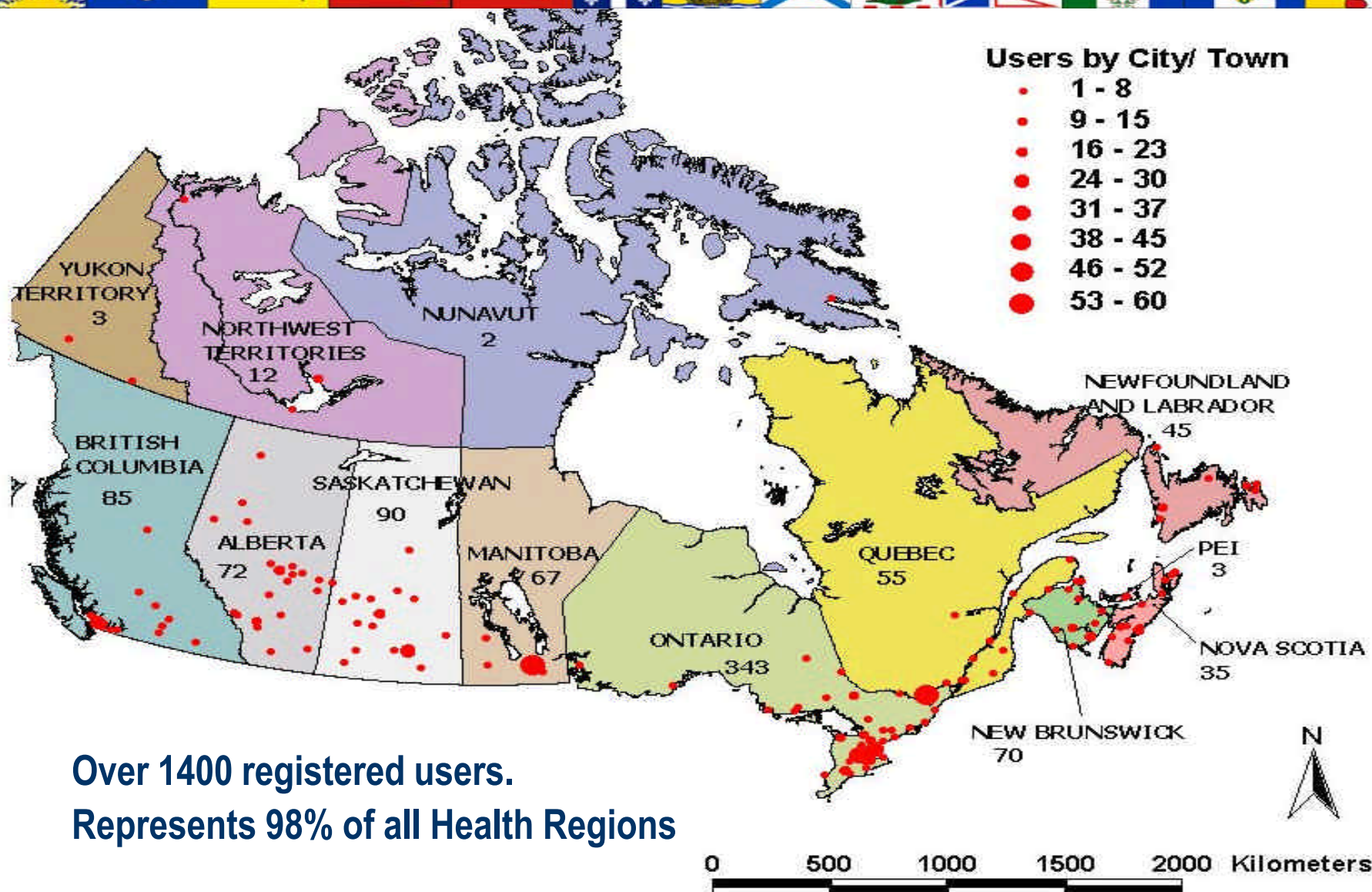
Age: All

Min. Age: 10 Max. Age: 75

Query HR

Query OTC

CNPHI Users in Canada

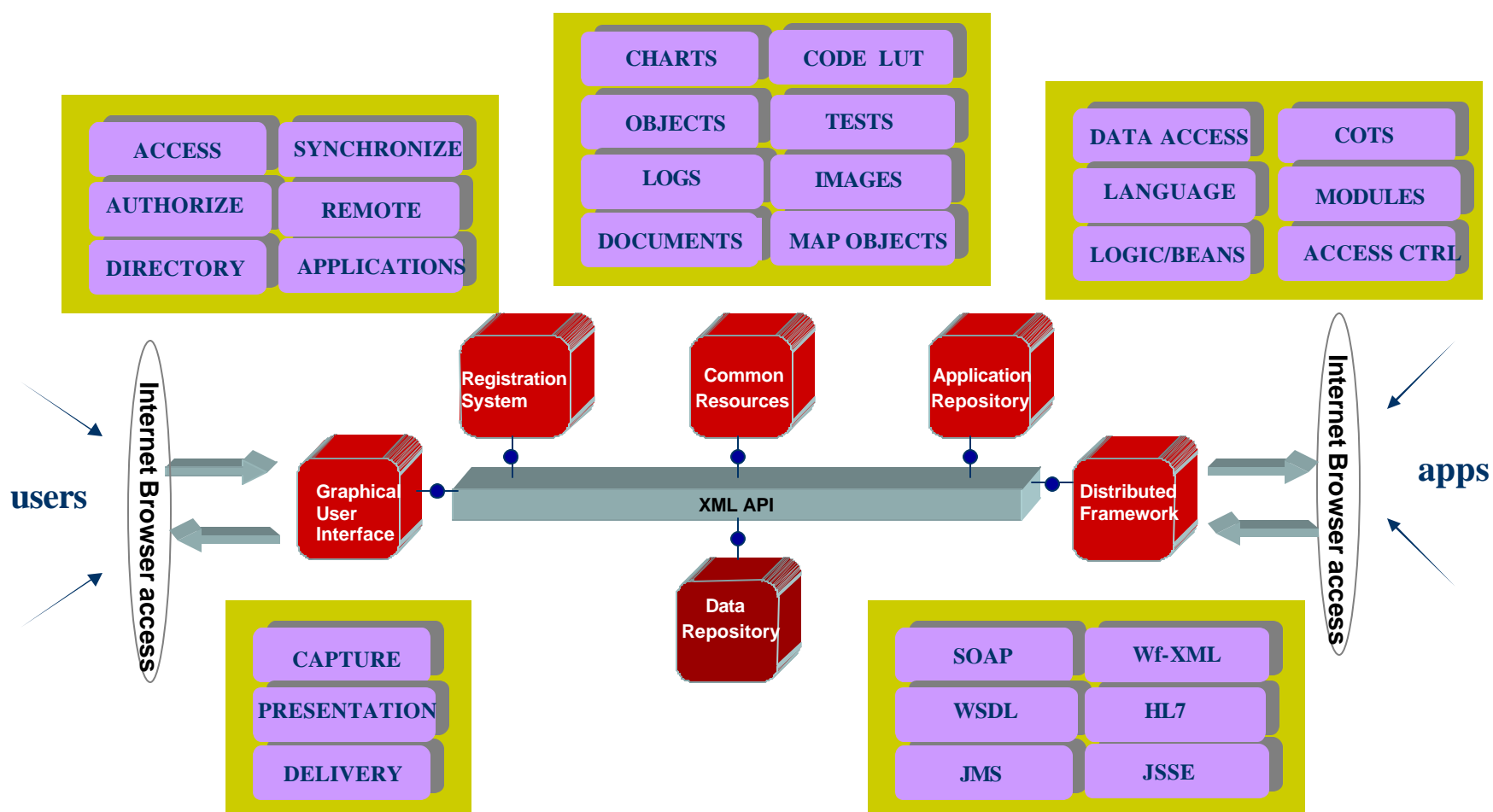


Over 1400 registered users.
Represents 98% of all Health Regions

CNPHI IT Architecture



enhanced Federated Architecture for Collaborating Technologies (eFACT)

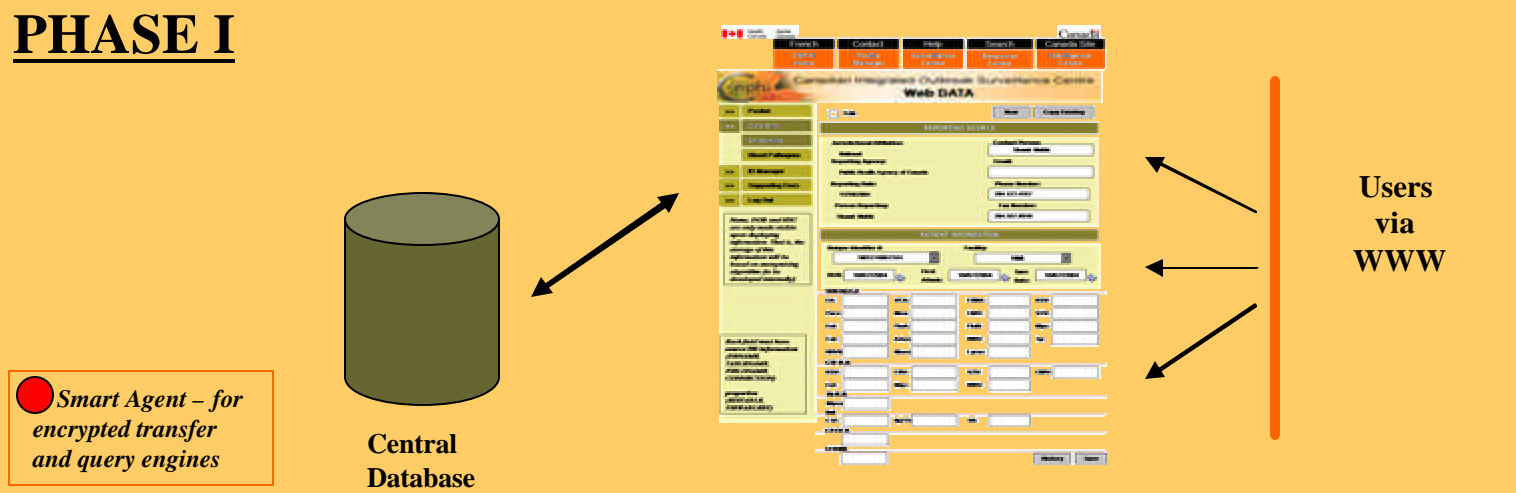


CNPHI IT Architecture

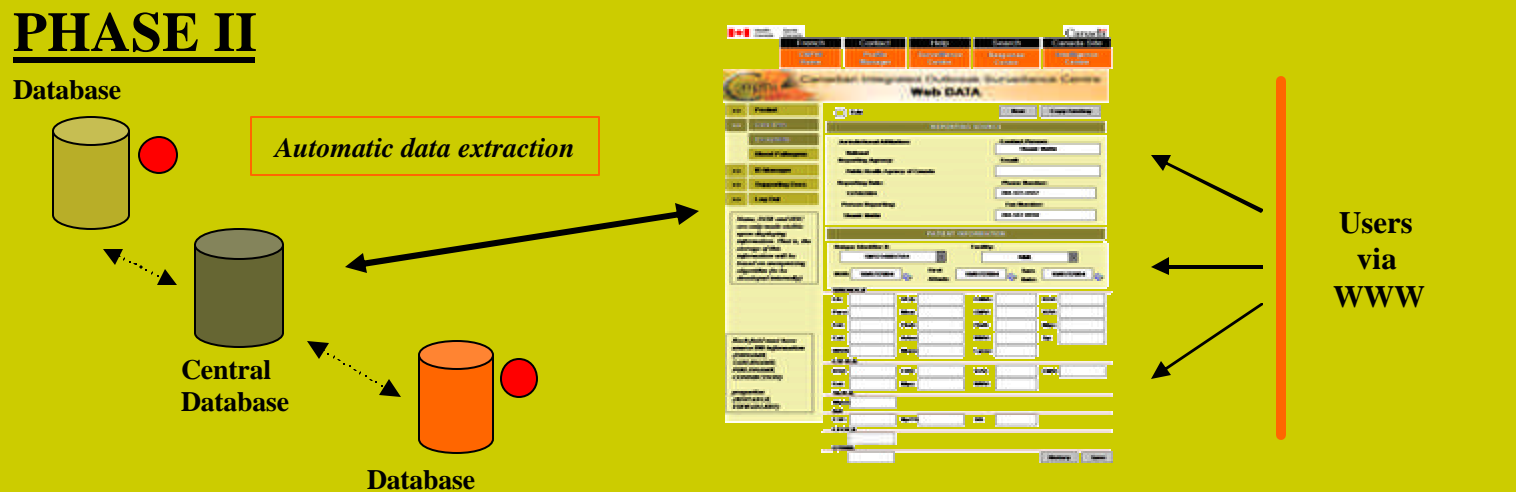


enhanced Federated Architecture for Collaborating Technologies (eFACT)

PHASE I



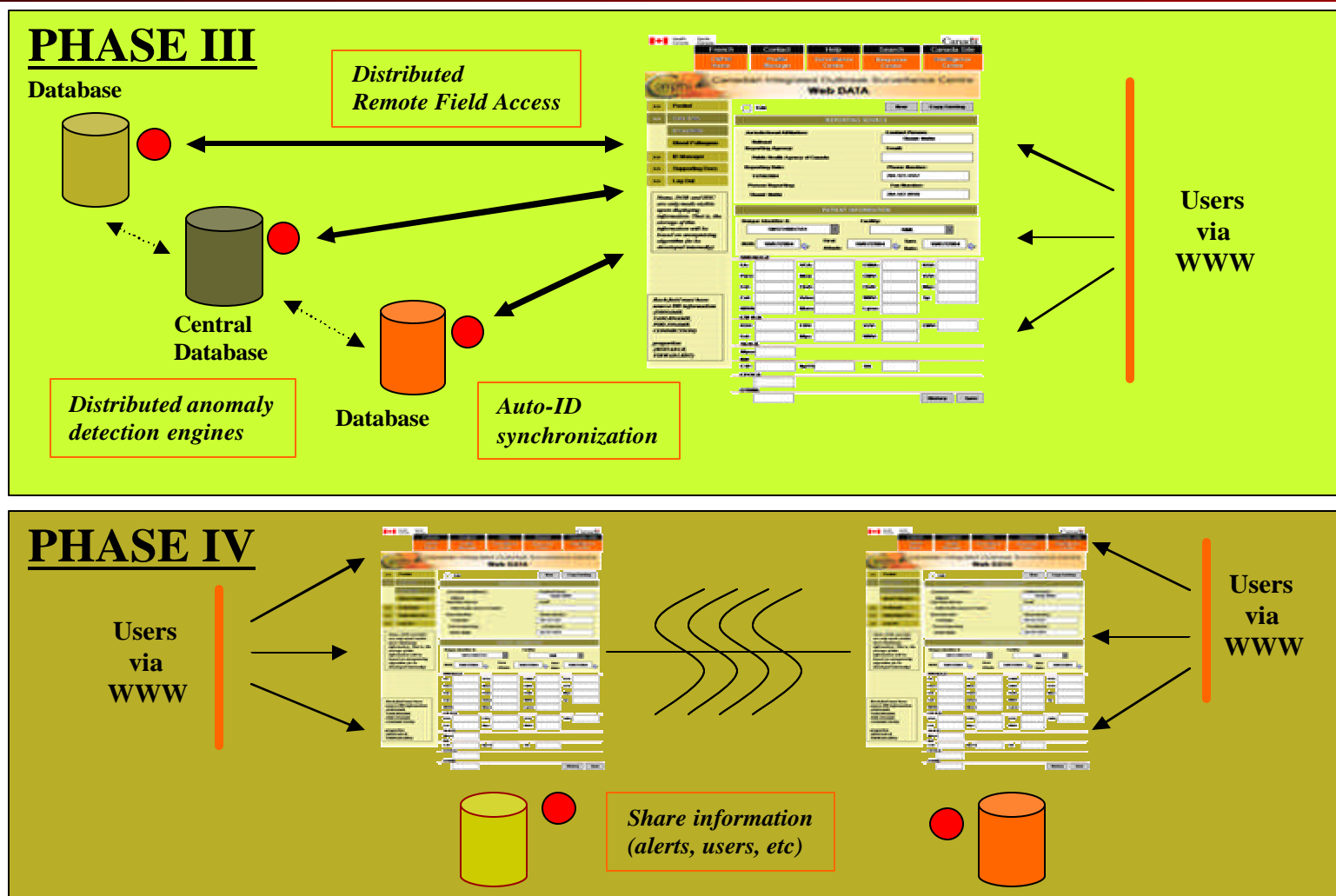
PHASE II



CNPHI IT Architecture



enhanced Federated Architecture for Collaborating Technologies (eFACT)



Direction / Next Steps



- Continue to consolidate all **PHAC** alerting/notification, surveillance, and response **IM/IT** programs under **CNPHI**.
- Continue to promote **Pan-Canadian** public health business rules and applications.
- Integrate **jurisdiction-specific** applications.
- Implement **Distributed Architecture** to better meet jurisdiction-specific needs.
- Engage/integrate **non-traditional** public health stakeholders into the network (CFIA, DND, Environment Canada, etc).
- Support/integrate with complementary Pan-Canadian public health **IM/IT** initiatives (**INFOWAY**).
- Partner with **international** public health authorities to facilitate international exchange of public health intelligence.



Like PHIN, the goal of CNPHI is to leverage the integration of disparate public health resources for the direct benefit of local, regional and national public health decision makers.

PHIN and CNPHI have similar focus areas:

- Detection and Monitoring
- Analysis
- Information Resources and Knowledge Management
- Alerting and Communications
- Response



&



Opportunity:

Cross-border integration to facilitate coordinated North American public health communications, surveillance and response.



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Web-site

www.cnphi-rcrsp.ca

CNPHI Administrator

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1-866-48CNPHI



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